MARINE REVIEW.

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One Long Whistle or Four Bells.

The following communication from James A. Dumont, supervising inspector general of steam vessels, explains itself:

Proprietors MARINE REVIEW, Cleveland, Ohio:—

Gentlemen:—I am in receipt of your letter of the 28th ultimo, in which you inform me that, at a recent assembly of vessel masters at Cleveland, one-half of the representatives admitted "that they blew four short whistles for the signal known as the strong signal;" and you ask if the use of such signal violates Rule V, Section 24. I would say, in reply, that there is no authority for the use of the signal indicated by you, and its use is, therefore, clearly a violation of the rules of the board, which require for a "strong" signal, one (1) long blast of the whistle or four (4) bells. Any other signal than this last, for the purpose indicated, would, in my judgment, make the vessel liable to a penalty; and, in case of accident between two vessels, when the wrong signal has been given by one of them, I think the courts would hold the vessel using such unlawful signal as *prima facie* in fault. Uniformity in signals is, without question, absolutely requisite to guard against accident. And if it is, as the masters represent, that one-half of them use one system of signals in the matter referred to and the other half use another, it would seem obvious that that half that use the unlawful signal should call a halt, and get into line with those who obey the law. If a consensus of opinion of the lake masters should determine that the unlawful signal used now by a portion of them is the better signal, the proper course for them to pursue, it would seem to me, would be to ask the board of supervising inspectors at its next meeting to change the rules to correspond to their wishes, which I have no doubt the board would do, at the request of a clear majority of the masters.

Very respectfully,

JAMES A. DUMONT,
Supervising Inspector General.

Washington, D. C., March 2, 1891.

Work of the Ship Yards.

Great ceremony will attend the launch on Saturday, the 14th inst., of the first of the two boats building at the yard of the Chicago Ship Building Company for the Minnesota Steamship Company. She will be the first iron boat launched on Lake Michigan and the builders will unite in making the event memorable. The interests of the steamship company as well as the big Minnesota mine are well represented in Chicago, and a special train will be run to South Chicago where the boats are being built

With the opening of navigation seven new ships will leave the yard of Capt. James Davidson, West Bay City.

A steamer is to be built at the Montreal Transportation Company's shipyard during the spring. She will be modeled after the style of the Minnedosa, but her dimensions will be slightly larger. The length will be 200 feet, beam 40 feet, depth of hold 18 feet. Triple expansion engines will furnish the motive power. The new boat is calculated to carry 60,000 bushels of wheat.

The government light-house tender Marigold, built by the Detroit Dry Dock Company, was formally turned over to Commander Oscar F. Heyerman, U. S. N., by Secretary Gilbert N. McMillan, of the dock company, Saturday, after a final trial trip attended by fitting ceremony. The test of the boat was eminently satisfactory. She developed a speed of fourteen miles, running through ice from two to four inches in thickness. Her boiler furnished steam power o 150 pounds to the inch. The engine succeeded in making 152 strokes to the minute. The Marigold is built after the style of a steam yacht, full schooner rigged for sailing exigencies. She is 159½ feet long and 27 feet beam. The hold is 12 feet 4 inches deep and is divided into eight water-tight compartments. Her engines are of the triple expansion pattern and were built by the Detroit Dry Dock Engine Company. The cylinders are of 24 inch stroke and are 14½, 22 and 36 inches, respectively in diameter. The boilers are cylindrical, 10 feet 6 inches by 10 feet 10 inches.

A great future is predicted for the Marinette Iron Works, of Duluth, as it is claimed that the concern is to build engines for the McDougall barges and will shortly be thoroughly equipped for that purpose, having secured the services of an experienced builder and having already begun work on designs. A big trade in saw mill machinery will aid the enterprise.

The new boat on the stocks at Holland's shipyard will be launched next week. Another will be put on the stocks soon after. Work on the steamer Cherokee and barge Chippewa, at Curtis & Brainard's yard, will be completed in a few days. Each has been given a double deck this winter. As soon as they are completed a new boat will be commenced under the supervision of M. P. Lester. She will be larger than the St. Lawrence. W. B. Morley has the frames up for another large steamer.

Appropriations for Lake Lights are Secured.

After a great deal of hard work on the part of Secretary McKay of the Cleveland Vessel Owners Association, Congressman Burton, Secretary Keep and several others, in the matter of lights and fog signals, for which the house had refused to appropriate a single dollar for the important commerce on and above Lake Erie, some assistance has been secured from the senate and there will be a partial relief in the expense of maintaining private lights in the future. The lakes did not get what was due them, but this feature of the matter may be more appropriately discussed at some future time. The sundry civil appropriation bill which now awaits only the signature of the president to become a law contains the following items for the lakes: Application of $60,000 already appropriated for light station at Simmon's reef to the building of light ships; new revenue cutter for Lake Michigan, $90,000; five gas buoys, $10,000; Genesee, Lake Ontario, fog signal, $4,300; Braddock's point, Lake Ontario, light station, $20,000; Ashtabula, Lake Erie, range lights and fog signal, $4,700; Fairport, Lake Erie, range lights and fog signal, $4,700; Lorain, Lake Erie, lights and fog signal, $4,700; Point Betsey, fog signal, $5,500; Squaw island, light station and fog signal, $25,000; Mackinac point, light station, $20,000; Windmill point, ranges, $3,000; Gratiot, ranges, $500; St Mary's river, lights, $30,000; Devil's island fog signal, $5,500; St Mary's river, patrol steamer, $4,000; Ahnapee, range lights, $2,500.

The bill also contains a clause empowering the suspension of the "line projectile" for one year, during which the secretary of war is to make an investigation into the advisability and utility of compelling vessels on the lakes to carry "line projectiles."

The light-house board has shown friendliness to the important lake interests in connection with these appropriations. The item in the bill substituting light ships for the light station at Simmon's reef is of special importance, and the board, anticipating favorable action on the bill, has already called for proposals for building the vessels. This was done in order to hasten the construction of the boats, so that they may be placed in position before the heavy gales of next fall set in, and great credit is due the board for its action. The lightships will be placed on Simmon's reef, Gray's reef, and White shoal. They will be under the direction of Col. William Ludlow, engineer of the ninth and eleventh light-house districts, stationed at Detroit. The bids will be opened on the 16th inst.

Some Sales of Iron Ore.

There are at last a few features of interest in the market for iron ore and some indications that the work of making contracts for next season's carrying trade is not far off. It is admitted in the office of E. C. Pope, who represents the Norrie mine, that that mine has sold some ore for next season's delivery, and Oglebay, Norton & Co., sales agents who represent the Ashland, Colby and other pig properties, and who will handle probably 2,000,000 tons of ore this season, are also understood to have made sales. The ore dealers report prices about $1 a ton below figures obtained on the same grades at the opening of the market last year. The extent of the sales is not known, but it is not thought to be large and other concerns express no anxiety on account of the transactions. The ore sold is of a high quality. The Norrie ore has been disposed of in past seasons at prices slightly below those secured on the very best of the Lake Superior product. The sales are not with the Illinois Steel Company, however, nor with Carnegie. Prominent ore men still hold that these two leading customers in the Lake Superior ore market are still willing that the situation may become more demoralized and are waiting for bottom, Carnegie having a plentiful ore supply and enough coke to run his furnaces for sixty days to come.

The ore dealers talk of dollar freight from Ashland but there is, of course, no rush on the part of vessel owners to accept such a figure. The situation as regards the entire iron industry is far more encouraging than it was two weeks ago, and if contracts are to be made at $1 from the head of Lake Superior the amount of tonnage tied up at that figure will be very light. Only the larger class of vessels could possibly make any money on such a basis for ore freights.

Coal shippers are seeking tonnage to load immediately, at Cleveland and Toledo especially, for Duluth and Milwaukee. Fifty cents is offered to Lake Superior and 55 @ 60 cents to Lake Michigan, but few boats have been secured on account of the expense that would attend the moving of them so early. The object with the coal shippers is to have coal ready for shipment before May 1, when labor trouble among the miners is expected. Loading of coal, as well as any move toward an opening at this time will certainly act to the disadvantage of the vessel interests. It is evident that the tendency now in the general situation is toward improvement over the gloomy outlook of the past several weeks when there was nothing whatever upon which calculations might be based. If men are kept away from the boats and circumstances permit of a late opening of navigation, it would seem now, more than ever, that the result will be to the advantage of the owners of floating property.

No Hull Tariff as Yet.

The lake underwriter who met in Buffalo last Friday took no action regarding a hull tariff. They adjourned to meet in Chicago later but it is not thought that there will be any change of importance in the tariff of last season. There was some informal talk of what might be expected from the representatives of the English Lloyds who secured some of the best risks on the lakes during the past two seasons by cutting rates,but the opinion generally expressed was that delay in settling the losses which the foreigners sustained, together with other disadvantages in dealing with English offices and English courts in cases of dispute, would act against an increase in this sort of competition. The main object of the gathering was to arrange for the further publication of the vessel register. It had been understood that the western agents were dissatisfied with the register as made up at Buffalo, and that a strong effort would be made to remove the headquarters to Chicago. Secretary Sill stated, after the meeting, that the effort made in that direction was not so strong as that of last year, and that it was decided to continue the publication at Buffalo as heretofore. Capt. Daniel McLeod was re-appointed chief inspector and manager of the register. All the interested companies being agreeable, a committee was named to apportion the expenses of the work among them. Officers were elected as follows: O. T. Flint, Buffalo, president; David Vance, Milwaukee, vice-president; H. S. Sill, Buffalo, secretary and treasurer; C. A. Macdonald, C. W. Elphicke, Chicago; F. L. Vance, Milwaukee; Eugene Harbeck, Detroit; Townsend Davis, H. S. Sill, Buffalo, executive committee.

All of the companies engaged in lake business were represented at the meeting. The representatives were: A. H. Macdonald, Detroit Fire and Marine Insurance Company; Eugene Harbeck, Michigan Fire and Marine, Detroit; F. L. Vance, Commercial Union Milwaukee; C. W. Elphicke, London, Chicago; R. E. Rispin, Union Marine, Chicago; G. L. McCurdy, North America, Chicago; J. S. Gadsden, Etna, Chicago; O. T. Flint, Greenwich, Buffalo; Townsend Davis, Western Assurance Exchange, Security, Standard and British and Foreign, Buffalo; C. A. MacDonald, Marine, Sea, Mannheim and Reliance, Chicago; H. S. Sill, St. Paul, Buffalo; C A. Macdonald, of Crosby & McDonald, Chicago It is stated that Mr. P. H. Fleming, who has just returned from Europe, succeeded in getting the general western agencies for the Union Marine, of Liverpool, the Saxony, of Saxony, the Transatlantic, of Berlin and the General, of Dresden.

Messrs. Gadsden and Elphicke, of Chicago, stopped off at Cleveland on their way home from the meeting. Mr. Gadsden, who now represents the Etna on the lakes, is old in the service of that reliable company having been connected with its fire insurance business at Chicago for a number of years.

A Modern Atlantic Steamship.

In a supplement accompanying this issue the MARINE REVIEW presents a photo-engraving of a modern Atlantic steamship, for which we are indebted to the American Shipbuilder, of New York. The boat is the El Sol, of the Morgan line, built by William Cramp & Son,of Philadelphia,under the direction of Horace See, marine architect, of No. 1 Broadway, New York. Her dimensions are: Length between stem and after side of propeller post, 380 feet; breadth of beam, molded, 48 feet; depth from top of upper deck beams to top of keel, at lowest part of sheer, 33¾ feet; length over all 405 feet; gross tonnage 4,500. The hull and deck houses are of iron and she has four pole masts; also of iron. The engines are of the vertical triple expansion type with three cranks, and cylinders 32, 52 and 84 inches diameter by 54 inches stroke of piston. Steam of 160 pounds pressure is supplied by three double-ended cylindrical, internally fired steel boilers, with eighteen furnaces fired fore and aft from two fire rooms.

Changes in Mine Representatives.

Mr. J. H. Dalliba has disposed of his interest in the firm of Dalliba, Corrigan & Co., and Mr. H. P. Lillibridge, who has been associated with the Schlesinger syndicate, joins Mr. Corrigan and the other members of the firm in the ore business. Mr. Dalliba will still look after some of the sales business of the concern in connection with other interests.

The figures at which the Schlesinger railway, of Michigan, together with eleven shares above a control in Chapin mine were sold, is reported, approximately, at $2,000,000. The Schlesinger syndicate paid $2,000,000 for the Chapin mine outright when it was purchased some time ago. Through the deal Mr. Schlesinger's interest in the three mines of the Florence & Iron River Company was disposed of to the minority, but he retains the four Negaunee mines—Queen, Prince of Wales, Buffalo and South Buffalo—as well as the Dunn and other mines which had nothing to do with the negotiations following his recent embarassment. There is no doubt that the purchase of the Schlesinger railway is in the interest of the Chicago & Northwestern but some doubt is still expressed with regard to the Vanderbilts controlling the mine as the negotiations were carried on through New York brokers.

Lake Carriers' Annual—Important Discussion.

Special Correspondence to the MARINE REVIEW.

BUFFALO, N. Y., March 5.—The annual meeting of the Lake Carriers' Association, held here today, was one of the most important gatherings in the history of the organization. Arbitration as a means of settling losses, uniformity in steering and the proposed adoption of a code of instructions to masters for the safer navigation of rivers, harbors and narrow channels are all matters that created a great deal of discussion and were generally discussed. It was hoped that the Cleveland representatives in the meeting—Mr. H. M. Hanna. Capt. GeorgeP . McKay and Capt. Thomas Wilson—that the wheel chain question would be settled at this meeting but it was again held over by the adoption of a resolution instructing the secretary to secure by letter the opinions of all members of the association. The discussion was, however, very warm, Messrs. Hanna, McKay and Wilson advocating uniformity in a very earnest manner. Uniformity can only be secured through the straight chain system. Messrs. Bullard and Maytham, of Buffalo, were the leading opponents of the change. Mr. Bullard holds to the opinion that the cross chain system is the natural system and Mr. Maytham does not want the tugs inconvenienced. Mr. Maytham's interest is in tugs and he holds, rightfully, that the chains on tugs are all crossed. It was evident at the close of the discussion, however, that even the Buffalo line masters are now less antagonistic toward uniformity in steering and it may be expected that the result of this inquiry among members will cause some action to be taken before the next meeting of the supervising inspectors of steam vessels.

The merits of arbitration in all matters of loss between lake vessels were presented by Mr. Hanna who introduced that question, and the opinion that prevailed was decidedly in favor of such a scheme for settling losses. On this as well as other questions papers from Capt. James Davidson, of West Bay City, Mr. Ira H. Owen, of Chicago, and others were read. The association did have rules bearing on arbitration but they were only for an adjustment of salvage claims. It was decided that the question was one with which it would be necessary to deal deliberately, and Messrs. H. M. Hanna, of Cleveland, A. W. Colton, of Toledo, and Frank J. Firth, of Erie, were appointed a committee to consult attorneys and submit, if possible, an arbitration plan that will be binding upon all vessel owners who enter into the agreement. In the course of discussion on this matter Mr. Firth, of the Anchor line, said that he felt sure that the insurance companies would also favor such arbitration and be governed by it in most cases. The Anchor line carrier Winslow and the steel steamer Castalia collided in the Detroit river last summer. The managers of the boats agreed to arbitrate the matter but found that the insurance policies of both boats contained collision clauses. This was against arbitration but both foreign and home underwriters agreed to arbitration and the case is now under consideration. It was also decided to proceed cautiously with regard to the code of rules for navigating narrow channels. Capt. Thomas Wilson, Cleveland, Ira H. Owen, Chicago, and W. Bullard, Buffalo, will prepare a code of rules and an effort will be made to have all vessel owners agree to have their masters live up to them. Messrs. Bullard, Evans and Hanna were appointed a committee to consider the advisability of employing counsel at Washington during the coming year. Messrs. John Gordon and James Ash were appointed a committee to audit the accounts of the treasurer. The association tendered Col. William Ludlow a vote of thanks for timely suggestions in regard to public matters under his charge.

Mr. J. S. Dunham, of Chicago, suggested a plan for delaying the opening of navigation until the 1st or 15th of May if it was found that the vessel owners were desirous of doing so. Mr. Dunham would have an agreement signed at all ports on the lakes and forwarded to Buffalo. The sympathies of the lake carriers were with the plan but they could take no action upon it as a body, as such action would be contrary to the constitution. The Lake Carriers' Association can do nothing to influence freights. Buffalo vessel owners will meet in a few days, however, and join in the Cleveland movement to have the opening delayed.

Secretary Keep's report was a very important document. In it Mr. Keep reviewed the work of the association for the entire year. The only changes in officers is in the board of managers which is now made up as follows: James Ash, W. Bullard, S. D. Caldwell, E. T. Evans, W. P. Henry, and P. P. Miller, Buffalo; Frank J. Firth, Erie; M. A. Bradley, H. M. Hanna, Thomas Wilson and Harvey H. Brown, Cleveland; A. W. Colton, Toledo; W. Livingston, Jr.,Detroit; James Davidson,Bay City; W. M. Egan and Ira H Owen, Chicago; R. P. Fitzgerald and David Vance, Milwaukee; John Gordon and Alex. McDougall, Duluth; F. W. Baldwin, Ogdensburg. Thers is now 291,771 tons of property in the association, the approximate value of which is $25,000,000.

From London, over the sea, comes report that the British underwriters have for some time been discussing the advisability of advancing premium rates. Their losses for the past year or two have been heavy, and their inclination to continue doing business at the old figures has been practically satisfied. Our own marine underwriters have claimed all along that the foreigners could not keep in the business at their low rates, and the present agitation would seem to confirm such view. While it may be true that the foreign rates were lower than the risks warranted, it is true that better rates fairly could have been made by the home underwriters on the high class lake hulls sought by the foreigners. High rates have been necessary for the home companies because of the large expenses incurred in the business as it has been done these many years. The general agents are paid a commission of 25 per cent. on all risks taken—good, bad, and indifferent. The more risks they take, the more money they make; so the companies are saddled with a lot of poor risks on which losses are almost inevitable. What cares the general agent so long as he gets his 25 per cent? Out of every 4 cent rate he gets 1 cent clear. The general agent takes the profits, and the company pays the losses. It is a nice thing for a man to go to Europe and get the general agency of several companies on such terms—a nice thing for the agent, but the companies may find the thing other than nice. The only sensible way to do this business is for the companies to pay a good man a fair salary to act as general agent, and a percentage of the profits if deemed advisable. Then risks will be closely scrutinized, and bad ones will be refused. Then the agent will work for the interest of his company, and the company will have a fair show of making something as well as the agent. The Etna has long followed this plan, and with good results.

J. M. M.

Chicago River Bridges and Navigation.

Special Correspondence to the MARINE REVIEW.

CHICAGO, ILL., March 5.—While everything points to a quiet season for 1891, with freight rates and wages approximately the same as last year, it will still be well to bear in mind that seasons have come and gone in which the patient has rallied in the most surprising manner. Small owners of lake craft have not been slow to perceive whither they were drifting through the launching of so many large freighting steamers. Very wisely they have been husbanding their resources, and it is safe to assume that they will not quit altogether losers when the tie up comes in the fall. As yet there is no indication of anything definite having been done in the way of coal, ore or lumber freights for the season, although a number of inquiries have been made.

The action of the mayor in declaring for fixed bridges creates considerable discussion here, and many of the more prominent vessel men are not slow to declare that more annoying blockades on the streets leading to the bridge approaches would occur under the fixed bridge system than now, and aside from that, every thousand of lumber, and every ton of coal would have an appreciated value. Among the many who ridicule the idea of fixed bridges there are however, a few who see in the distant future the whole lake front given up to grain elevators, coal and lumber yards.

While everything is seemingly in "inocuous desutude," the E. M. B. A. meet regularly once a week, to initiate new members, and provide ways and means for strengthening their prosperous lodge. Last week two noted addresses were made at the rooms, by special invitation. Admiralty attorney Kremer and Alderman Dunham talked to the masters. The former spoke for an hour and a half on laws governing navigation on the Chicago river, and the liability of tugs to their tows. Among other things Mr. Kremer dwelt upon were: The points of speed to be pursued, and the right of way in passing and entering bridges. In his closing address the speaker said the rules governing the navigation of the Chicago river was the same as on the lakes, and that the rules provided by congress and those provided by the inspectors of steam vessels were in harmony with the statutory rules. By custom steamers and vessels navigating the Chicago river must keep to the right whenever possible, and that when navigating the river in meeting vessels they were to be governed by rule one, known as the head rule, and rule twenty-four of the statute, which provides in all cases however, that vessels must if possible avoid a collision, and must have a due regard to all special circumstances which render a departure from the rules necessary. He said that all signals must be promptly answered whether assenting or dissenting, and danger signals should be used where there is doubt or difficulty. Alderman Dunham received almost an ovation as he stepped to the platform. He gave a history of the Canal street bridge and closed by urging its removal, and a deepening of the channel that navigation might be made safe and convenient. The speaker also called upon his hearers to oppose farther encroachments on the rights of vessels to navigate the Chicago river.

Vessel owners are interested in procuring signatures to a petition whereby a sailor endeavoring to ship before the mast as an unknown or as one without proper discharge papers from his last master shall be ineligible for such employment.

The mayor has submitted a communication to the finance committee with reference to straightening the river between Harrison and Taylor streets, and putting in large bridges at Harrison and Polk streets. The plan of placing a bridge at Fourteenth street will probably be abandoned as that street has not been opened to the river front.

No Rebates on Grain Transhipped at Ogdensburg.

Special Correspondence to the MARINE REVIEW.

KINGSTON, Ont., March 5.—At last there are good prospects of the difficulty about the rebate of canal tolls on grain transhipped at Ogdensburg being disposed of. It will be remembered that last season the government was asked to make said rebate, the same as was allowed on grain which was transhipped at Kingston. The request was not granted, and then the matter was discussed at Washington, where it was contended that if the Canadian government did not allow the rebate it would discriminate against grain carried in American bottoms. After considerable discussion it was learned that the order-in-council dealing with the matter made no other stipulation than that to secure the rebate the grain must be bound for Montreal. It therefore permitted grain t be carried from any western American port to Ogdensburg, and thence to Montreal without being handled in Canada. This being the case the government conld not refuse the application made, and the result was that considerable grain was carried in American bottoms past Kingston. As a fresh order-in-council, providing for the rebate of canal tolls, is passed every year, mariners in different parts of the country have decided to petition the government for the usual rebate, with the addition that it be allowed on grain that is *transhipped at a Canadian port only.* This is the first announcement of this fact that has been made. No doubt it will cause quite a commotion among marine interests of the United States, as the government allowance of the rebate last fall on grain transhipped at Ogdensburg for Montreal had become known, and many had made arrangements to take advantage of it during the coming season. Sir John Macdonald, the premier of the dominion, is now in Kingston. He takes a great interest in marine, because this is his constituency. A few nights ago he made an address before the electors, and in it he referred to the Canadian canal system, and the competition in grain car ying, saying that if his party were returned to power he would go on and complete the canal system, which would include the erection of large elevators in Kingston. If the elevators are built here, there will be no fear of competition. It was the new elevator at Ogdensburg that caused the recent agitation,as boats could go there without fearing detention in awaiting barges. Here, if barges are all loaded, lake vessels have to wait. Elevators would do away with this. The dominion elections which will be decided, Thursday, has caused stagnation in everything, marine included. People will talk nothing but elections.

Capt. Paul, of the government staff, is now here with several engineers making arrangements for the work of removing the shoals in the harbor. There ar several bad ones which require attention. With the removal of these shoals and the location of range lights the harbor will be in good condition.

The hull inspectors will soon leave here to begin their run through the country to ascertain the condition of floating stock. Considerable repairing is being done in the west this winter.

The Collinsby Rafting and Towing Company,Garden island,is building a powerful steel steam tug, the plates, machinery, etc., for which are being imported from England. The Calvin Company is building a barge for the lake trade of the following dimensions: Length, 200 feet; breadth of beam, 37 feet; depth of hold, 16 feet. She will have capacity to carry 1,650 tons of freight through the Welland canal. Mr. Ira B. Folger, of the same place, has recently launched a fine new steamer for the St. Lawrence river excursion business. The engines and boilers of the steamers Islander, Maryland and St. Lawrence belonging to the Thousand Island Steamship Company, are receiving large repairs and alterations.

Courses and Compass Errors.

EDITOR MARINE REVIEW; In your issue of Dec. 4, 1890, I notice an article on "Aids to Navigation" by Capt. James Stone, in which he makes the following statement on the subject of compasses: "However much may be claimed regarding a perfect adjustment by magnets, I do not believe that perfection can be attained on all courses upon any ship, and it is still left imperative with masters to *jot down the courses run until the proper course is established.*" (The italics are mine.) It is not the first part of the above statement to which I object for it is well known that the deviation of compasses in iron ships is liable to change from time to time, and no adjustment, however skillfully made, can ever obviate the necessiy of constant watchfulness on the part of the navigator. It is the *method* of converting the courses proposed, to which I take exception. According to Capt. Stone, the navigator should "jot down the courses run, until the proper compass course is established." But pray how is he going to shape his *first* course in a new ship? I can only infer from the captain's remark that he would have to estimate, judge, or guess at his first course, let it lead where it might, and go zigzag back and forth until, after several voyages; he succeeded in getting his compasses "down fine." Furthermore, it is perfectly well known that the deviation of a compass in an iron ship changes from time to time; At first with great rapidity, owing to change in the magnetic condition of the ship, a fact which must seriously interfere with the "fining down" process. The trouble is, that such slip-shod, hap-hazard navigation is unworthy of any man who calls himself a navigator, because it is possible for a master to place his ship on any required course with absolute unimpeachable accuracy by a process not much more difficult than reading the time on a clock. The only appliances necessary are a good pelorus properly mounted on the bridge, a book of azimuth tables, and a good watch. I might add, the requisite knowledge of how to use these articles, which may be attained by a few hours' reading, and the requisite skill, which may be acquired in a few days' practice. With the means for shaping accurate courses and for ascertaining compass errors so easy of attainment, there is absolutely no excuse for accidents due to errors of course; and in this connection it will be well to advise our captain friends, if you ever do have the misfortune to get your vessel ashore don't blame your compass; that is an excuse that will not "go" with the local inspectors. JOHN L. BLISS.

New York, Feb. 21.

Proof of the above was furnished to Capt. James Stone, who maintains the intelligence of the lake navigator with wit and wisdom that will be relished. He says: "The author of this communication no doubt means well and probably thoroughly understands the adjusting of compasses, and as long as he remains on the coast, continuing his work of advising masters who always have a wide expanse of water on one side, and often all around them, I have no doubt his skill and services will be appreciated. But his suggestions as to how to get a proper compass course here on the lakes, would be about as valuable as the military order from the late lamented Horace Greely—"On to Richmond." As a journalist Mr. Greely ranked high, but in assuming to understand military tactics he was sadly out of line. It is to be regretted that Mr. Bliss did not have the advantages of some practical experience here on the lakes, which would have saved him the trouble of making this criticism and talking so learnedly upon a matter of which he really understands nothing except in theory.

"A number of years ago a Boston man came to this place, bringing with him all the nautical instruments known to science, and literally loaded down with skill, learning and theory, suggesting a complete revolution in navigating the lakes. After making a few trips, he hastened to apologize for his great lack of the very thing he supposed he knew all about. His superabundance of nautical lore has grown rusty and is laid on the shelves, but he has become useful in confining himself simply to adjusting compasses and repairing marine glasses, and has long since acknowledged that the little practical knowledge of navigating these lakes that he brought from Boston was not even preparatory to what he has since learned. The "pelorus" (polarus) and azimuth tables referred to above are among the rusty relics of our Boston friend. My dear down-east landsman friend—I assume from the above you are no seaman—we often make four or five trips before your instruments could be of any possible use, owing to making certain runs during the night time or in cloudy or foggy weather at the necessary time, and other difficulties not encountered on the sea. We cannot wait for opportunities favorable for such observations, and masters are obliged to manifest more skill and tact than is necessary with your manner and surroundings in navigating. You ask how we are going to shape our first course. Before leaving on our first trip our compass is adjusted by the Boston man or some other adjuster and is near enough to correctness so that, with care, we start on our first trip and proceed according to my previous explanation. This answer may not be clear to a landsman, but to a mariner it is quite sufficient. Should something practical suggest itselt to your mind whereby we might be benefitted—such as how to avoid collisions, to dispel fog, load 3,000 tons of cargo in less than three hours, or discharge the same in less than twelve hours—we will be glad to hear from you, but do not appeal to the planetary system, necessitating the use of the higher forms of mathematics as a means of ascertaining our position on our lakes, as we might dash upon the rocks while the problem is being worked out. Do not allow your ambition to advise or to become known, lead you beyond your limit of practical knowledge. JAMES STONE.

Iron Mining.

VALUE OF LEADING STOCKS.

Quoted by Chas. H. Potter & Co., No. 104 Superior St.

Stocks.	Par Value.	Bid.	Asked.
Cleveland Iron Mining Company	$ 25 00	$ 16 00	$ 18 00
Champion Iron Company	25 00	90 00	100 00
Chandler Iron Company	25 00	39 00	40 00
Chicago and Minnesota Ore Company	100 00	.....	110 00
Iron Cliffs Iron Company	50 00	.....	125 00
Jackson Iron Company	25 00	90 00	100 00
Lake Superior Iron Company	25 00	65 00	68 00
Minnesota Iron Company	100 00	70 00	80 00
Pittsburg Lake Angeline Iron Co	25 00	145 00	.....
Republic Iron Company	25 00	27 00	29 00
Michigamme	25 00	8 50	10 00

Professor Winchell, state geologist of Minnesota, is about to publish a review of the iron industry of the state, advance sheets of which have already been given out. The documenf will be read with considerable interest, in view of the important position now held by Minnesota as an iron ore producing state, and especially on account of recent developments on the new Mesaba range, south of the Vermillion and extending west almost to the Mississippi river. Although development has progressed in this new district without opening up any important mines, it is generally admitted by practical leaders of Lake Superior mining companies in Cleveland and elsewhere that the situation might be different were it not for the depressed condition of the iron ore market at this time. Mr. Winchell, of course, predicts a great future for the new Minnesota territory. On the question of future transportation, he says: "In the event of the development of our iron ore industry between Duluth and the Mississippi river, there can be no doubt that the Mississippi river will become the chief avenue of transportation and that the coals of Iowa and Illinois will be the objective points. The route from Grand Rapids to the Mississippi by river to points near the coal fields of Illinois and Iowa would compete successfully with that by lake to Cleveland. The Mississippi is navigable without improvement between Grand Rapids and Aitkin and between St. Paul and the Gulf of Mexico. There are rapids and waterfalls between St. Paul and Aitkin where locks and canals would have to be constructed. It is only when, by law, mining companies and all similar corporations are required to keep open books, showing their expenses and receipts, that a reliable statement of the cost of production can be made Some of the soft Bessemer hematites on the Gogebic range have been mined at a cost of 75 cents per ton in large quanties, but that was when it required but little more than excavation and shoveling the product into cars, which were run even into the hillside where the ore was found. In general, however, the cost of mining the soft ores is much greater. At Ely it may not exceed $1.25 per ton. This, of course, does not include transportation. At Tower the expense is greater, and at the same time the company has entered upon extensive and expensive improvements. The cost per ton there is nearly $2, allowance being made for all improvements and explorations and for depreciation. The net profits, based on these fignres, and allowing for cost of transportation to Cleveland, amounts to about $1,000,000 for the mines at Ely, since they were opened in 1888, and about $9,000,000 for the mines at Tower since 1884."

There is a particular interest in the actual work on the different properties in the Mesaba district. The ore is all low in phosphorus and shows a percentage in iron that is equal to the run of the best Lake Superior product but deposits that would warrant heavy investments are not reported. On the property of the Stone Iron Company, for instance, the ore has been stripped for a considerable extent in length and breadth and is of fair quality. It is very hard, resembling in appearance the Vermillion ore at Tower, rather than the other Mesaba ores yet found. Surface samples analyze about 58 per cent.; but nothing has been done to determine the vertical extent of the deposit. At the Mallman, another leading prospect showing ore of about the same percentage in iron, a shaft is now down about 60 feet, and it is said that this shaft has been in ore for the last 40 feet. The ore is a peculiar mixture of hard and soft ore in streaks. The Mesaba syndicate has quit work in one section, while the Minnesota Iron Company's operations in the new field have been given up altogether.

A recent report from the Cliffs Shaft, Marquette range says: The diamond drill in "B" level of "A" shaft, east drift, is in 350 feet east, of the drift. A drill hole from the surface, about 500 feet east, showed a good body of ore and the purpose is to determine which way the ore is making. An immense body of ore is exposed to view in this mine and comparatively little stoping has been done in it. The drifts are very wide and high and follow the jasper, keeping on the left. The hanging is so solid and the backs of the drifts so firm that no timber in the drifts is required. Sinking "B" shaft to the third level will soon be commenced. The level is already opened through under the shaft. Another level in "A" shaft will also soon be started, 40 feet below the present bottom.

Water Columns and Gauge Glasses.

EDITOR MARINE REVIEW:—This subject ought to be interesting to marine engineers. It is universally acknowledged that a good water column and gauge glass are almost as important a part of the outfit of a steam boiler as the safety valve; and I am of the opinion that they should be considered quite as important. Why not? With the steam gauge before him the engineer has danger staring him in the face while he is crowding his steam beyond the proper limit. But if he has no gauge glass the water may drop to a dangerous level either by accident or otherwise before he thinks to try his gauge cocks; and good engineers are often in doubt as to the true level of the water by gauge-cocks when the boiler is foaming badly.

Gauge glasses, however, should only be relied on as auxiliary attachments, and the gauge cocks should be tried often. All the gauge cocks should also have cords leading into the engine room and within handy reach of the engineer; otherwise they will be neglected.

The true value of a water column depends on the way in which it is connected, and that it will indicate absolntely the true water level.

The steam and water connections should be of ample size; never less than one and a half inches, while two inches would be preferable.

The steam connection should be taken either from the top of the shell or the side of the dome, and should never be taken from any pipe through which steam passes with any degree of velocity.

Particular care should be taken to have the steam connection so that it will drain either into the water column or back into the boiler. It is best to give it a good pitch toward the water column. But be sure that no water can stand in the pipe, or it will turn your column into a magazine of danger instead of an agent of safety.

The water connection should be taken from the boiler at the part where it is least liable to become stopped by sediment deposits.

There should be as few bends as possible in the pipe, and tees or crosses should always be used instead of elbows. The openings of those tees and crosses not connected with the pipe should be fitted with plugs well coated with plumbago so that they can be easily removed for the purpose of cleaning out the pipes.

Valves should invariably be placed in water column connection pipes, both on the steam and water side, and in such a place that they can be closed without the engineer getting scalded in case the gauge glass breaks.

And now I am going to say something that will cause a great many engineers to disagree with me. Every boiler should have a low water alarm attachment. Careful engineers should not object to this, as, if they never let the water get low, the alarm will never be sounded; and the other members of the crew are entitled to this cautionary protection against careless or forgetful men. Some of our most careful engineers might be surprised to find how often the alarm might be sounded even on their watch. There are some of these appliances that are perfectly reliable and are tested every time the water is drawn out of the glass while under pressure.

None but the very best of fittings should be used on a water column and its connections, as the fittings should be handled very often in order to keep the pipes, column and glass as free from sediment as possibie. If they are not kept free your column is worse than worthless; it is dangerous.

Probably four-fifths of the breakage of gauge glasses is done in putting them in or in tightening up the gland nuts when the stuffing boxes become leaky. This is caused by the tarsional or twisting strain, due to the fact that both glands are threaded in the right hand manner. The manufacturer who first puts upon the market sets of glass gauge fittings with one gland nut threaded right-hand and the other one threaded left-hand should received the patronage of every engineer in the land. Such fittings would be the means of reducing the number of glasses broken and also reducing the number of unholy adjectives indulged in by my not over-pious brother professionals.

Another great objection to all the glass gauge fittings in existence is the bottom fixture known as the pet-cock It may be pretty to look upon, but there is probably no one thing about the engine room that causes more profanity than this harmless looking little piece of brass. It always leaks, and when it quietly lets a drop of hot water down the back of a man's neck he is liable to forget the prayers his mother taught him. If a boss were substituted for the pet-cock, and tapped for quarter inch pipe, the improvement would be appreciated by all the members of the craft.

F. B. SMITH, Marine Engineer.

MARINE REVIEW.

DEVOTED TO THE LAKE MARINE AND KINDRED INTERESTS.

JOHN M. MULROONEY, ... } PROPRIETORS.
F. M. BARTON, ... }

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The books of the United States treasury department contain the names of 3,510 vessels, measuring 1,063,063.90 tons in the lake trade. In classification of this fleet the lakes have more steamboats of 1,000 to 2,500 tons than the combined ownership of this class of vessels in all other sections of the country. The classification is as follows:

Class.	Number.	Tonnage.
Steam vessels	1,527	652,922.25
Sailing vessels	1,272	328,655.96
Canal boats	657	67,574.90
Barges	54	13,910.09
Total	3,510	1,063,063.90

According to the report of William W. Bates, United States commissioner of navigation, 46 per cent. of the new tonnage of the country was built on the lakes during 1889. This is a percentage greater than the work of the Atlantic coast and western rivers combined, and almost equal to the whole work on the Atlantic and Pacific coast. In 1890 the tonnage built on the lakes is but very little less than that built on the Atlantic and Gulf coasts. Tonnage built on the lakes during the past five years was as follows:

	No. of boats.	Net Tonnage.
1886	85	20,400.54
1887	152	56,488.32
1888	222	101,102.87
1889	225	107,080.30
1890	218	108,515.00
Total	902	393,597.03

Annual tonnage entries and clearances of the great seaports of the world, for 1889: New York, 11,051,236 tons; all seaports in the United States, 26,983,315 tons; Liverpool, 14,175,200 tons; London, 19,245,417 tons.

St. Mary's Falls and Suez canal traffic: Number of boats through St. Mary's Falls canal in 1890, 234 days of navigation, 10,557; tonnage, net registered, 8,454,425. Number of boats through Suez canal during 1889, full year, 3,425; tonnage, net registered, 6,783,187.

Tonnage passing through Detroit river during 234 days of navigation in 1889, amounted to **36,203,606** *tons. Ten million tons more than the entries and clearances of all the seaports in the United States, and three million tons more than the combined foreign and coastwise shipping of Liverpool and London.*

Entered at Cleveland Post Office as Second-class Mail Matter.

THE improvemement of lake water-ways is of importance to the general prosperity of this country. Upon this standpoint, the Lake Carriers' Association and Cleveland Vessel Owners' Association have, within the past three years accomplished a great deal in Washington, but there is still need of more energetic action and a better understanding with the members of the army engineering corps in charge of lake districts. In this regard the following from Col. William Ludlow, in charge of the Ninth and Eleventh light-house districts, is of interest. In complying with a request from the MARINE REVIEW for information regarding light-ships and buoys proposed for the lakes Col. Ludlow says: "I feel desirous in all proper ways to keep in touch with the vessel interests and know of no better method of doing so than the fullest understanding on all sides as to the needs of the service and the best means of meeting them. Concert of action and the fullest accord as to measures are essential to the procurement of betterments,and personally it will always be my endeavor to promote full and cordial understanding with the people who are directly concerned with the public matters in my charge."

"SOMETHING has at length been done by congress to remove the reproach of penuriousness in the country's dealing with the judges of the federal courts, by the passage of the bill increasing the salary of district court judges to $5,000 a year," says Bradstreets in an editorial, adding that it has been a long standing reproach to the government that judges called upon to determine the most difficult questions of admiralty should be obliged to live on such salaries. The admiralty cases which arise from accidents on the lakes alone would warrant this increase, for in dealing with some cases they use a knowledge of navigation that has been acquired by masters only in years of experience. It is now proposed that judges in the more important districts be given an additional increase. This would include judges who sit at Cleveland, Detroit and Milwaukee, where most of the admiralty cases are heard.

WHILE it is true that Senator McMillan, of Michigan, has in all other matters been favorably disposed toward lake vessel interests, his attitude in the present congress toward the construction of a tunnel under the Detroit river at Detroit must not be overlooked. It means that another high bridge scheme will be presented in the next congress. Senator McMillan has so expressed himself in Washington, notwithstanding the talk of his opposition being confined to Luther Beecher's connection with the tunnel company. Mr. McMillan has succeeded in killing the tunnel bill in this congress and it is more than probable that it will again be necessary to go over the whole question.

THE current issue of the Scientific American publishes a lengthy description of the management and work of the government life-saving service, with excellent illustrations of the different appliances used in the service. The need of better treatment for the men engaged in this noble calling is asserting itself, and the meagre allowance that they receive in the way of salary should be increased.

An Extra Knot an Hour.

Foreign exchanges present articles on a new type of marine boiler which was recently tried at Greenwich, in a torpedo boat for the Argentine Republic. Counterparts of this boat had been fitted with boilers on the locomotive principle and had developed 17 knots, while with this new water tube boiler 18 knots were developed under similar conditions. The following description of the boiler is contained in Industries:

"The boiler consists of a cylindrical upper part of about 20 inches in diameter by 6 feet long, and two lower prismatic water pockets also about 6 feet in length. These three chambers are sub-divided longitudinally so as to give free access to their interior in every part. The upper cylinder, when at work, is about half full of water, and is connected to the water-pockets by a large number of straight galvanized steel tubes slanting downwards, at an angle of about thirty degrees, and forming, in section, a body something like an inverted letter V, of which the fire-grate forms the bases. The flames rise from the furnace and pass to the right and left, in between the slanted tubes and round the top cylinder to the funnel. These tubes, under all circumstances, are completely filled with water, and cannot, therefore, become overheated. The system of circulation is maintained, owing to the tubes subject to the greatest heat having an upward current and those subject to lesser heat having a downward current."

Little Inducement and Big Risk of Failure.

Naval engineers are not wondering that the department at Washington got no response to its request for proposals on a "torpedo chaser" that was to be faster than anything afloat. According to the requirements the vessel was to attain a speed of twenty-three knots, equal on land to 26½ miles an hour. The dimensions specified were: Length on deck, 246 feet; length on the load-water line, 259 feet; breadth of beam, 27 feet 6 inches; draught of water forward, 8 feet; aft, 10 feet or a mean of 9 feet, and displacement, about 750 tons. She was to be supplied with two complete sets of direct acting triple expansion engines, with four cylinders in each set. It was calculated that each engine should be capable of working up to 3,000 horse power, and thus the two, working together, would develop 6,000 horse power, an amount of power never before given to a vessel of the above dimensions.

Around the Lakes.

Capt. Martin Ericson, aged 64 years, died at Milwaukee on Thursday last.

A one-half interest in the schooner Jennie Weaver has been sold by J. H. Perdue, of Frankfort, Mich., to Abraham Anderderson, for $1,000.

The government is erecting a fog bell in front of the lighthouse at the north of Thunder bay island, Lake Huron, which will be run by clock work.

H. P. Sherwin, with Upson, Walton & Co., Cleveland, for a number of years, goes to Ashtabula Harbor, as manager of the Harbor Ship Chandlery Co.

All of the large Milwaukee coal dealing establishments report lighter stocks on hand than at this time a year ago. This constitutes an encouraging feature to vessel men.

Contractor J. B. Donnelly, of Oswego, N. Y., has been awarded the contract by the government for extending the north pier at Erie harbor. The contract price is $33,525.88.

A West Superior newspaper figures that at the opening of navigation the American Steel Barge Company will have eighteen whaleback vessels afloat, with a total net tonnage of 50,900.

The sale of the schooner Morning Star by Adelaide R. Warren, of Chicago, to Walter S. Johnson of Milwaukee, is reported The consideration is $5,500. The schooner's net tonnage is 195 tons.

The north passage is full of ice as far as the eye can reach from end of Point au Pelee island. Hence the first trip of the season by the City of Detroit from Detroit to Cleveland has been postponed.

Otto Westerholm and Capt. Charles Peterson, of Chicago, have purchased the schooner Kate Hinchman from Capt. John Hanson, consideration $3,000. Capt. Charles Peterson will sail the schooner.

The steamer C. A. Forbes, owned by Ceorge Harper and J. W. Heisner, which ran on the Saginaw bay route last season, has been sold to Alson Trudo and Frank Smith, of West Bay City, the consideration being $3,500.

Two tramps stole the steamer Stauber lying at the Grand Trunk Dock, Port Huron. The men enjoyed an excursion up the lake and in the river. One handled the engine and the other took possession of the pilot house.

The engineers of the Inter-Ocean Transportation Company's steamers Maryland and Merrimac commenced fitting out the machinery of their respective boats. Engineers of the remaining steamers of the fleet will report for duty on the 15th inst.

The steamer John E. Hall has been sold by Samuel Hall, of Manitowoc, to W. H. Bourke & Co., of Detroit, for $24.500. The Hall was built at Manitowoc in 1889, measures 279 net tons, has an A1 rating, and was valued at $30,000 last season in Inland Lloyds.

About 800 feet of the big Lake Shore dock at Ashtabula is now ready for planking. Ore shipments from the harbor to furnaces were again very light last week but the P. Y. & A. road is said to have an order for 85,000 tons upon which work will begin shortly.

The Maytham Tug Line is the name of a Buffalo corporation which now controls the towing and wrecking business of Thomas Maytham and others. The capital is $33,500 and the directors are Thomas Maytham, Edward C. Maytham, Lambert W. Drake, George W. Maytham and Edward H. Maytham.

The Bucyrus Steam Shovel and Dredge Company contemplates leaving the inland Ohio town from which its name is derived, on account of inadequate facilities. The works of this company now employ about 300 hands and Lorain citizens are endeavoring to secure the enterprise. A bonus of land and buildings is demanded.

The Port Huron Wrecking and Transportation Company will attempt to release the schooner Henry W. Sage from the beach near Cheboygan. The Sage, laden with iron ore and bound from Lake Superior to Cleveland, broke adrift from her steambarge on Lake Huron, and the captain, Truman Moore, put back for the Straits, but in doing so the boat went ashore about midway between Cheboygan and Rogers City. Although the wrecking company is said to be making preparations for releasing her just as soon as the weather will permit, lake masters who have been close to the stranded boat say she is broken in two. The accident occurred late in the fall of 1889.

Cleveland Matters.

Mr. M. A. Bradley has returned from a trip to Florida.

A. W. Comstock, of Alpena, owner of the Niko and Churchill, was in Cleveland, Monday, on his way home from Germany.

An advertisement elsewhere announces that the propeller H.S.Pickands and Salina and schooners Keepsake and Shiawassee will be sold, public sale, at Springwells, near Detroit, on Tuesday next at 10 a.m.

Capt. David Barnum, known as "the Ancient Mariner," died at his home in Cleveland, Saturday, in the eighty-fifth year of his age. He spent more than fifty years of a long and eventful life on the lakes.

The Black Cloud Chemical Fire Extinguisher Company announces that they have made arrangements with the well known marine fire insurance firm of Palmer & Co.,to act as marine agents for their fire extinguishers.

Cleveland friends of Francis R. Stevenson, of Erie, were advised of his death, Tuesday. Mr. Stevenson was an old lake engineer and was highly respected. Of late years he has been in charge of the machinery of one of the Erie elevators.

The regular weekly circular from the office of the commissioner of navigation, giving names of vessels to which official numbers have been signed, this week contains the name of the steamer Norwalk of 1007.43 gross and 881,95 net tons. Her official number is 130,528 and the home port Detroit This is probably some rebuilt vessel.

Excelsior Marine Benevolent Association.

A library fitting the elegant quarters of the Cleveland lodge lodge is now assured. At the regular meeting on Saturday, Mr. James H. Hoyt, of the law firm of Sherman, Hoyt & Dustin, who addressed the captains, offered to undertake the work of securing a library. Captains John Lowe, Richard Neville and James Stone consulted Mr. Hoyt later and a list of books and periodicals was prepared. Mr. Hoyt, who is interested in vessel property, says he anticipates no trouble in securing about $600 for the library. The lodge desires to thank Senator Payne, of Ohio, for a copy of the United States and Geodetic Survey. A chart table to suit the full set of lake charts recently received by the lodge is the latest addition to the rooms.

Capt. William S. Mack, presided at Saturday's meeting of the Cleveland lodge, which was addressed by Mr. James S. Hoyt and Capt. Albert Manning, of Brooks, Manning & Co. Mr. Hoyt talked of the legal and moral responsibility of vessel masters,and the peculiar characteristics fitting men in the profession, especially in the lake trade He made his address most interesting by portraying, as they had occurred to him through associations of a legal nature and otherwise, the qualifications necessary to the successful lake captain; the moderate exercise of unlimited power and the moral care for the rights of owners, the elevation of the profession and the example set to men under them who eventually make captains. Capt. Manning spoke on matters of direct importance to the captains. He discouraged haste in making protests after accidents and was very emphatic in advising that a thorough understanding be had with wreckers when a boat is ashore or otherwise disabled so as to need assistance. "Better let your vessel go to pieces," he said, "than take assistance from a wrecking tug without knowing what the charges will be. The tug captain who comes alongside your disabled boat and says 'never mind the charges, as the owner will make that all right,' seeks to take advantage of your misfortune. Every dollar paid out by the underwriter today comes out of the pockets of the vessel owner tomorrow. The insurance company gathers in the premiums and pays out the losses, but the loss ratio fixes the premium rate." Capt. Manning would advise the captains to give some attention to the science of navigation as an aid to practical navigation and hoped that their association would bring this about.

Appointments of Masters and Engineers.

The MARINE REVIEW presents here a long list of appointments of masters and engineers for the coming season. The list, although far from comprising the entire fleet, is official, as it comes from managing owners, and, in addition to being interesting to lake men, it will serve as a directary for anyone seeking communication with any or all of the officers, the post office address of the managing owners being given in all cases:

Capt. Thomas Wilson, Cleveland, O.: Appointments covering seven steamers and one schooner in this fleet have all been made, but the officers have not as yet been assigned to the different boats. Boats, captains and engineers are as follows: Steamers—Spokane, Olympia, Yakima, Sitka, Missoula, C. Tower, Jr., and Wallula. Captains—A. E. White, A. M. Shepherd, W. W. Dawley, Duncan Buie, John Buie, Daniel Buie and William Carlisle. Engineers—William A. Gregory, J. H. Mayberry, Brooks Howard, Robert J. Close, George N. Wise, John Hess and Edward Miller. The schooner Wadena will be commanded by Capt. William Southerland. Edward Morton is commodore of this fleet.

Robert R. Rhodes, Cleveland, O.: Steamers—Neshoto, Capt. W. H. Humphrey, Evans Jenkins, engineer; Neosho, Capt. C. S. Millard, Thomas Malloy, engineer; R. R. Rhodes, Capt. F. P. Houghton, Walter A. Henry. engineer.

Milwaukee Steamship Company, Milwaukee, Wis.: Steamers—F. L. Vance, Capt. Marion Finney, William J. Geroen, engineer; R. P. Flower, Capt. Charles M. Davis.

Lake Michigan & Lake Superior Transportation Company. Chicago, Ills.: Steamers—Peerless, Capt. H. C. Page, William Conly, engineer; City of Duluth, Capt. Donald McLean, Henry Chalk, engineer; City of Traverse, Capt. J. M Twitchell, S. W. Armstrong, engineer; Jay Gould, Capt. Joseph White, A P. Williams, engineer.

R. K. Winslow, Cleveland, O.: Steamers—Wocoken, Capt. G. W. Mullen; Egyptian, Capt. F. A. Graves; Cormorant, Capt. Carlton Graves; engineers not appointed. Schooners—Pelican, Capt. T. Donahue; Winslow, Capt. J. D. Roberts.

Mitchell Transportation Company, Hampton, Mich.: Steamers—A. Folsom, Capt A H Gains. Schooners—Mary B. Mitchell, Capt. W. B. Cadotte; Nelson, Capt. Walter Hazen.

Appointments for the Bradley fleet of twenty-three boats, Cleveland, O.: Steamers—Hesper, Capt. Jones, Henry Shoof, engineer; Gladstone, Capt. J. A. Holmes, Fred Harmon, engineer; Pasadena, Capt. T. H. Rae, F. B. Smith, engineer; M B. Grover, Capt. F. A. Fick, S. H. Hunter, engineer: Henry Chisholm, Capt. Mathew Mulholland, J. W. Twohig, engineer; R. P. Ranney, Capt. John Wysoon, James Shannon, engineer; City of Cleveland, Capt. C. Moran, Engineer Talbott; E B. Hale, Capt. Paul Serrett, Geo. B. Wilson, engineer; J. S Fay, Capt. Wm. Anderson, Engineer Cronley; Superior, Capt. Henry Peterson, J. C. O'Donnell, engineer; Fred Kelley, Capt. L. Stought, Engineer Stalter; S. E. Sheldon, Capt. William Brown, William Angell, engineer. Schooners—Ahira Cobb, Capt. E. Saveland; John Martin, Capt. Paul Howell; D. P. Rhodes, Capt. George McLeod; Negaunee, Capt. I. H. Andrews; Fayette Brown, Capt. Charles Ahlstrom; A. Bradley, Capt. Chas. Tift; Thomas Quayle, Capt. William Pitcher; Sandusky, Capt. E P. Spear; M. R. Warner, Capt. N. Gifford; S. P. Ely, Capt. Jason Thomas; S. H. Kimball, Capt. A. P. Klumph.

Mitchell & Co., Cleveland: Steamers—W. F. Sauber, Capt. C.B. Galton, Engineer Charles J. Love; R. L. Fryer, Capt. M. P. Parsons, Engineer Edward Guy; W. H. Gratwick, Capt. Chris. Peterson, Engineer Frank Parker; George T. Hope, Capt. B. Nelson, Engineer Geo. E. Blauvelt; John Mitchell, Capt. C. H. Chamberlain, Engineer M. Owens; Ed. Smith, No. 1, Capt. B. D. Townsend, Engineer Peter Lawly; Ed. Smith, No. 2, Capt. Alfred Mitchell, Engineer Nelson Goudette. Schooners—S. E. Marvin, William Brines; R. L. Fryer, Burt Mitchell; C. J. Fillmore, Nat Kendall; Angus Smith, A. Meswald; Troy, J. Williams. No appointment has been made on the schooner Maria Martin.

Manager Ricketson, of the Inter-Ocean company, Milwaukee, has appointed the following officers: M. Conley, chief engineer; Maryland, Capt. James E. Yax, Engineer S. C. Davis; Manchester, Capt. Timothy Kelley, Engineer James Grant; Manhattan, Capt. H. F. Loftin, Engineer William Turnbull; Massachussetts, Capt. P. A. Anderson, Engineer Philip Van, Rensselaer; Mer imac, Capt. William J. Pringle, Engineer W. R. Patterson; Minnesota, Capt. Daniel Jones, Engineer W. H. Pinkham; Metacomet Capt. W. L. Shield.

John Shaw, Bay City, Mich: Steamers—John F. Eddy, Capt. H. L. Shaw, Andrew Carter, engineer; Charles A Eddy, Capt. H. Zealand, B. Hill, engineer. Schooners—John Shaw, Capt. Charles Ludwick; Newell A. Eddy, Capt. William E Chateau.

Capt. Truman Moore, Lorain, O.: Schooners—Alice B. Norris, Capt. F. E. Ingraham; Kate Winslow, Capt. Truman Moore.

Northern Steamship Company, Buffalo, N. Y.: Steamers—Northern King, Capt. C. W. Brown, William Pike, engineer; North Wind, Capt. Delos Waite, J. F. Finley, engineer; Northern Queen, Capt. E. M. Smith, A. J. Jones, engineer; Northern Wave, Capt. M. Niland, Thomas Finley, engineer; Northern Light. Capt. C. S. Furey, William Erskine, engineer; North Star, Capt. William Thorne, J. B. Purvis, engineer.

E. D. Carter, Erie, Pa.: Steamers—Fedora, Capt. F. D. Welcome, Joseph Blanchett, engineer; Nyanza, Capt. C. H. Wilson, Engineer Mead.

B. Whitaker & Son, Detroit, Mich: Steamer—Byron Whitaker, David Wilson, Master, T. J. McDonell, engineer. Schooners—S. V. R. Watson, Capt. P. Ryan; Unadilla, Capt. John Wilson

D. C. Whitney, Detroit, Mich.: Steamers—Tampa, Capt. W. H. Hutcheson, D. Black, engineer; Lansing, Capt. C. J. Ennis, Gus Gey, engineer; F. W. Wheeler, Capt. John Ivers, C. Murett, engineer; Mecosta, Capt John Leonard, John Francombe, engineer; D. C. Whitney, Capt. Geo. Trotter, Engineer Williams; Nipigon, Capt. A. C. May, Wm. McKitrick, engineer; S. C. Baldwin, Capt. John Byers, Engineer Walker. Schooners—Ashland, Capt. D. Critchett; Wayne, Capt. D. Tiffant; Melbourne, Capt. G. Cooper; Grace Whitney, Capt. E. Pillon; India, Capt. W. Johnson; Dashing Wave, no appointment.

Flint & Pere Marquette Railroad, Ludington, Mich.: Steamers—F. & P. M. No. 1, Capt. M. McRae, Robt. McLaren, engineer; F. & P. M. No. 2, Capt. Hugh Clark, C. S. Himmelien, engineer; F. & P. M. No. 3, Gapt. John Stewart, Finlay McLaren, engineer; F. & P. M. No. 4, Capt. Joseph Russell, Jerry Collins, engineer; F. & P. M. No. 5, Capt. C. E. Moody, Chas. Wilcox, engineer.

Wolf & Davidson Steamship Company, Milwaukee, Wis.: Steamers—W. H. Wolf, Capt. E. W. Craine, John J. Stevens, engineer; Thos. Davidson, Capt. J. H. Coleman, W. Kavanaugh, engineer; Fred Pabst, Capt. L. W. Young, M. Tower, engineer; Geo. H. Dyer, Capt. Wm. Lund, Thos. Haig, engineer; Ferd. Schlesinger, Capt. D P. Craine, Arthur Fortier, engineer.

The Davidson Transportation Company, West Bay City, Mich.: Steamers - Panther, Capt. Robert Jones; Lizzie Madden, (formerly Chenango), Capt. Joseph Albino, C. H. Burke, engineer; Oneida, Capt. George W. Pardee, P. Martel, engineer. Schooners—Adriatic, Capt. George A. Crockett; Celtic, Capt. George W. Starkey; Gaelic, Capt. Wellington R. Seymour. Big Four steamships, as yet not named, but which will be ready to start at opening of navigation, Capts. Michael Madden, Daniel Sullivan, Archibald McEachern, Lon Coxe.

Michigan Navigation Company, Detroit, Mich.: Steamers—Livingstone, Capt. William H. Wilson, Alex. Morison, engineer; Thomas W. Palmer, Capt. George F. Stilphen, Robert Hodge, engineer.

Marine Transit Company, Marine City, Mich.: Steamers—Aztec, Capt. Fred Howe, no appointment of engineer; Toltec, Capt. James Taylor, Arthur Armson, engineer. Schooners—Zapotec, Capt. Peter Thompson; Miztec, Capt. James Owen.

E. C. Recor, St. Clair, Mich.: Steamers—New boat building at Marine City, Capt. H. D. Moore; Mark Hopkins, Capt. W. C. Brown; Rhoda Stewart, Capt. W. E. Rice; Oswegatchie, no appointment.

Brown & Co., Buffalo, N. Y.: Steamers—Samoa, Capt. Joseph Shacket, Lewis Minnie, engineer; W. H. Barnum, Capt. Victor Bownah, A. Jamison, engineer; E. S. Tice, Capt. H. H. Townsend, Chas. Conshaine, engineer; Samuel Marshall, Capt. Thos. Cowan, Chas. Deshano, engineer; Ogemaw, Capt. Jno. C. Pringle, D. Elliot, engineer. Schooners—David Vance, Capt. Geo. Case; F. M. Knapp, Capt. James Jean; Samuel J. Tilden, Capt. Jno. Burke; A C. Maxwell, Capt. Jno. Mason.

Lake Erie Transportation Company, Toledo, O.: Steamers—S. C. Reynolds, Capt. F. A. Wetmore, Geo. Butler, engineer; J. C. Gault, Capt. W. Cottrell, A. Zeitler, engineer; Russell Sage, Capt. Henry Root, J. H. Miller, engineer; A. L. Hopkins, Capt. T. C. Hewet, J. Kohlbeuner, engineer.

Hollister Transportation Company, Buffalo, N Y.: Steamers—Emily P. Weed, no appointment of master, William Barr, engineer; John C. Pringle, Capt. Alex. Birnie, Joseph Lance, engineer. Schooners—Benj. Harrison, Capt. Fred A. Emory; Sweetheart, Capt. Robert Gillies; Sunshine, Capt. William Johnson.

Campbell & Cook, Michigan City, Ind: Steamers—A. R. Colborn, Capt. J. M. Campbell, John Lutz, engineer; Walter Vail, Capt. James Sanford, D. McMillen, engineer; Huron City, no appointments. Schooners—D. A. Austin, Capt. Rube Cassady; Baltic, Capt. A. D. Campbell. Tug Pearl B Campbell, Capt. Theo. Lutz, John Corrow, engineer.

H. Durand, Toledo, O.: Steamer—St. Paul, Capt. H. Durand, William Robinson, engineer. Schooners—Scotia, Capt. George L. Durand; P. B. Locke, Capt. George Brooks; A. P. Grover, Capt. F. Doville.

Milwaukee Tug Boat Line, Milwaukee, Wis.: Steamers—Helena, Capt. James Leisk, Scott Pratt, engineer; Veronica, Capt. W. E. Wright, W. B. Lewis, engineer; C. H. Starke, Capt. John A. Connelly, W. Reordan, engineer. Tugs—Welcome, Capt. W. Gneinch, M. Munson, engineer;

J. J. Hagerman, Capt. J. McSweeney, J. Inneman, engineer; W. H. Simpson, Capt. H. Downer, F. Huerth, engineer; Starke, day crew, Capt. L. Reordan, W. Langfeldt, engineer, night crew, Capt. I. Driswell, M. Driswell, engineer; I. B. Merrill, Capt. H. Consaul, L. Hamlyn, engineer; Carl, Capt. Theo. Nieson, C. Fritsh, engineer.

C. H. Bradley, Bay City, Mich.: Steamer—C. H. Bradley, Capt. C. H. Marsden, S. L. Phillips, engineer. Schooners—Mary Woolson, Capt. S. Foster; Brightie, Capt. Wallace Allen; Goshawk, Capt. Mike Nagle.

J. W. Millen, Detroit, Mich.: Steamers—Iron King, Capt. Geo. Miner, O. Snyder, engineer; Iron Duke, Capt. Wm. Millen, Jacob Zea, engineer; Iron Age, Capt. N. L. Miner, J. F. Williams, engineer; Iron Chief, Capt. Geo. Dennis, Jas. Randall, engineer; Greyhound, Capt. Christ Moore, George Lawrence, engineer. Schooners—Iron Queen, Capt. Wm. Irvin; Iron Cliff, Capt. Sidney Millen; Iron State, Capt. Louis Leonard; Iron City, Capt. W W. Carter.

A. A. Parker, Detroit, Mich.: Steamers—John Oades, Capt. J. T. Hutton, James Falconer, engineer; Minneapolis, Capt. T. Lemay, Frank Teipet, engineer; B. W. Blanchard, Capt. H. W. Bogert, Richard Mahoney, engineer. Tug—Favorite, Capt. Martin Swain, Geo. Cooper, engineer. Schooners—B. W. Parker, Capt. Ed Lohr; Redwing, Capt. Chas. Woods; Saveland, Capt. Chas. E. Jones; Sandiego, Capt. Chas. Henry.

Cleveland Rolling Mill Company, Cleveland, O.: Steamers—J. H. Wade, Capt. Thos. Wilford; Wm. Chisholm, Capt. C. M. Swartwood; J. H. Devereux, Capt. S. A Gillmore. Same engineers in this fleet as were in last year.

Warner & Becker, Cleveland, O.: Steamers—Keystone, Capt. John Thompson. Schooners—Masten, Capt Harry Parker; Kent, Capt. Ralph E. Byrns; Joseph Paige, Capt. W. R. Williams.

Cleveland Iron Mining Company, Cleveland, O.: Steamers—Pontiac, Capt. James B. Lowe, Thos. Kelley, engineer; Frontenac, Capt. S. N. Murphy, Pat. Whelan, engineer; Kaliyuga, Capt. John Lowe, James Patterson, engineer. Schooner Fontana, Capt. A. Peterson.

Republic Iron Mining Company, Cleveland, O.: Steamers—Republic, Capt. J. Landfair; Specular, Capt. I. B. Lyon; Colonial, Capt. C. B. Tower; Continental, Capt. E. T. Rattray; Marquette, Capt. Chas. Hinslea. Schooners—Magnetic, Capt. Wm. Megarvey; Holland, Capt. Henry Rogers.

H. H. Brown & Co, Cleveland, O.: Steamers—Castalia, Capt. C. C. Allen; Wawatam, Capt. E. E. Mooney; Steel boat under construction, Capt. Orville W. Greene; LaSalle, Capt. Henry Stone; Joliet, Capt. Millen; S. R. Kirby, Capt. James Fras r; E. M. Peck, Capt. E. C. Gatfield; Fayette Brown, Capt. D. Girardin, Forest City, Capt. Joseph Sanders; R. J. Hackett, Capt. Henry Sanders.

Thomas Adams, Detroit, Mich.: Steamers—Thomas Adams, Capt. D. Nicholson, John Kelly, engineer; H. Farwell, Capt. D. Duncanson, John Cullen, engineer; Spinner, Capt. George Kendall. Scho ners—J. H. Rutter, Capt. S. L. Ketchum; Jeremiah Godfrey, Capt. Madison; Shawnee, Capt. John Eberlein.

W. J White, Cleveland, O.: Steamers—Brittanic, Capt. Ira B. Mansfield; Quito, Capt. Richard Call.

H. J. Webb & Co., Cleveland, O.: Roumania, Capt. R. J. Cowley, E. W. Prince, engineer; J. H. Outhwaite, Capt. John Nelson, Martin Burnes, engineer. Schooners—Genoa, Capt. Alex. Porter; Camden, Capt. H. Cummings; Thomas P. Sheldon, Philip Smith.

Minnesota Steamship Company, Cleveland, O.: Steamers—Mesaba, Capt. G. B. Mallory, Alonzo Arnold, engineer; Marina, Capt. F. D. Root, John Costello, engineer; Maruba, Capt. J. P. Cottrell, William F. Sauber, engineer; Matoa, Capt. Andrew Graves, C. Castle, engineer; Mariska, Capt. Robert Graves, Charles W. Wall, engineer; Manola, Capt. Bassett, James F. Derrig, engineer; Samuel Mather, Capt. William Ames, George E. Averill, engineer; V. H. Ketchum, Capt. W. B. McGregor, Edgar Arnold, engineer.

Palmer & Co., Cleveland, O: Steamers—Geo. Presley, Capt. Warren Morris; W. L. Wetmore, Capt. Chas. Wallace, A. L. Eggert, engineer; Queen of the West, Capt. James Nicolson; Business, Capt. Robert Kerr, William Doubleday, engineer; Germanic, Capt John McNeff, Charles Price, engineer; Rube Richards, Capt. M. H. Place. Schooners—Emma C. Hutchinson, Capt. Frank Brown; May Richards, Capt. L. Vosburg; J. B. Kitchen, Capt. A. D. Henderson; Brunette, Capt. Benjamin Chambers.

H. J. Johnson, Cleveland, O.: Steamers—H. J. Johnson, Capt. Charles Miner; V. Swain, Capt. Thos. Beniteau. Schooner—Helvetia, Capt. Wm. Packer.

Peter Minch, Cleveland, O.: Steamers—Western Reserve, Capt. Albert Myers, William Seaman, engineer; Onoko, Capt. William Gerlach, Bernard Wood, engineer; Philip Minch, Capt. Wm. Young, George Waterberry, engineer; John N. Glidden, Capt. W. H. Johnson, James Williams, engineer; H. A. Tuttle, Capt. Cornelius Young; A. Everett, Capt. H. J. Trinter. Schooners—Sophia Minch, Capt. Joseph Lampoh; Fred A. Morse, Capt. Horace Fisher; G. H. Warmington, Capt. Jeremiah Harrington.

Rochester Transportation Company, Buffalo, N. Y.: Steamers—Northerner, Capt. Frank Conklin, John Steinbach, engineer. Schooners—John T. Mott, Capt. Geo. Blair; Montcalm, Capt John McCullough; A. Boody, Capt. James Pappa; A. G. Morey, Capt. James H. Bennett.

Chilson Brothers, Lorain, O.: Schooners—C. H. Burton, Capt. C. E. Chilson; St. Lawrence, Capt. G. W. Burtis; Selkirk, Capt. Geo. Mackie; Leu. Franz Sigel, Capt. P. J. Lavoo; Itasca, Capt. W. E. Chilson.

Sandusky Transportation Company, Sandusky, O.. Steamers—Chauncy Hurlbut, Master not appointed, Geo. Marquart, engineer. Schooners—S L. Watson, Capt. Amos C. Reimers; L. C. Butts, Capt. Chas. L. Goodsite; D. K. Clint, Capt. C. H. Woodford; A. J. Rogers, Capt. W. E. Moore.

Escanaba & Lake Michigan Transportation Company, Chicago, Ills.: Steamers—Escanaba, Capt. Wm. Chamberlain, Patrick J. Navaugh, chief engineer; Argonaut, Capt. Geo. L. Cottrell, Peter Marcoux, engineer; Rhoda Emily, Capt. Charles E. Little, Geo. M. Tilton, engineer.

Owen Line, Chicago, Ill.: Steamers—Parks Foster, Capt. Geo. F. Merrett, Charles B. Calder, engineer; I. H. Owen, Capt. J E. Owen, Eli V. Barry, engineer.

Miscellaneous Steamers—C. W. Elphicke, Berlin Heights, O., Capt. C. Z. Montague, no appointment of engineer; James C. Lockwood, Huron, O., Capt. J. D. Peterson, Josh B. Wood, engineer; City of Grand Rapids, Traverse City, Ind., Capt. O. E Wilbur, Jay Phillips, engineer; Crescent, Traverse City, Ind., Capt. H. N. Young, M. Lintey, engineer; Josephine, Chicago, Ill., Capt. Massey. Schooners—E. R. Williams, Cleveland, O., Capt. Horace Hunton; Sawyer, Cleveland, O., Capt. Joseph Murphy; Red, White and Blue, Lorain, O., Capt. J. M. Robinson; Hattie Wells, Port Huron, Mich., Capt. William Brownlee; W. R. Clinton, Sandusky, O., Capt. Peter Heninger; T. L. Parker, Chicago, Ill., Capt. David Beggs; A lanta, East Saginaw, Mich., Capt. James Knowlton; George W. Wesley, East Saginaw, Mich., Capt. Robert Smith; F. A. Georger, Cleveland, O., Capt H. W. Phillips.

Affairs in Admiralty.

Judge Hammond, of Tennessee, handed down a decision at Detroit last week, in the collision case which occured at Southeast bend last July, between the Charles Hebard and consorts and the Monticello. The Hebard was bound down and noticed a raft ahead. The Monticello, in tow of the American Eagle was bound up, and the tug crowded the shore so close that one of the schooners grounded, while the tow of the Hebard, which had been checked drifted into the tow of the tug. The decision finds the Hebard entirely at fault and is as follows:

"Given the fact, that the injured vessel is seen to be without fault, or even without a suspicion of any; given the facts that there was nearly 300 feet of open water between the edge of the raft and the American shore; given the fact that there was no force in the sweep of the current or no obstacle in the trend of the bend that was not always in that bend and that current, if not in all bends and all currents; given the fact that there was no hindrence in the wind or light; nothing in any of the elements that ordinary skill in navigation should not always anticipate at that time and place and under the conditions then present and it seems to me that the negligence of the Hebard is conclusively demonstrated by the happening of the collision itself.

"So far we have considered the case upon the proof of the defendant's witnesses, not taking everything they say to be true, to be sure, and particularly all the opinions they express, but substantially giving credit to them and believing that they swear as they saw the fault and only correcting errors of evidence by the other proof pertinent thereto. And this is all the court can ever do, fot it is not bound to believe everything a witness swears, although he be a credible witness. Credible witnesses are often mistaken."

The Ohio-Siberia collision case was put on in United States court at Detroit this week. The Ohio, which was sunk in Mud lake, May 19, 1890, sues the Siberia and Samuel Mather for $79,611. The complainant claims that near Sailors' Encampment the Sibera sheered toward the Ohio and notwithstanding the latter tried to get out of the way she was struck and sunk in a few minutes. Another claim is that no lookout was on either boat. The suction caused by the Mather passing the Siberia will also enter into the case. Altogether it will be as interesting a case as has been heard this term.

VESSEL AND MACHINERY EXCHANGE.

Space under this heading may be used gratis by our advertisers or subscribers to call attention to vessels or any craft, machinery, new or second hand, that they may have for sale. Those wanting machinery of any kind, or wishing to purchase vessels, are invited to take advantage of the same offer. Each item will be limited to three lines. Letters concerning same must mention number attached to item and be addressed MARINE REVIEW, 510 Perry-Payne Building, Cleveland, O.

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50—FOR SALE—Tug, 52 ft. over all, 11 ft. beam, engine 10 x 12, boiler allowed 100 pounds, built in 1887.

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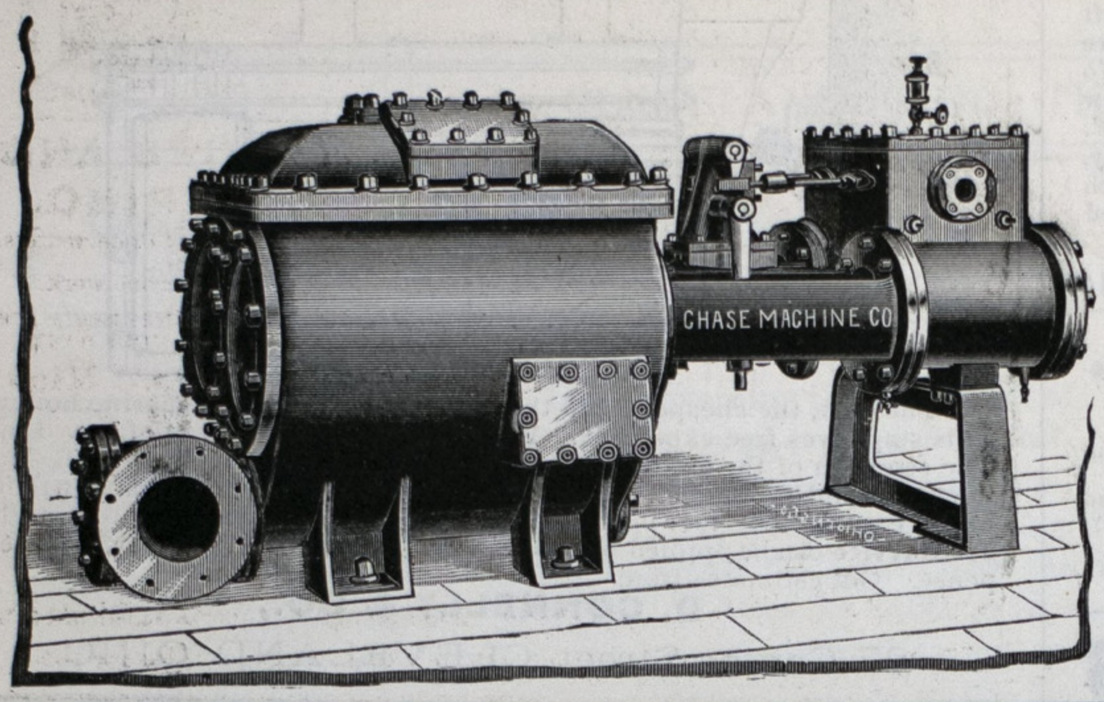

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Detroit Dry Dock Co.	Detroit, Upper Docks,.....	239 300	42 56	8 12	.....	Watchman. Will call Sup't.
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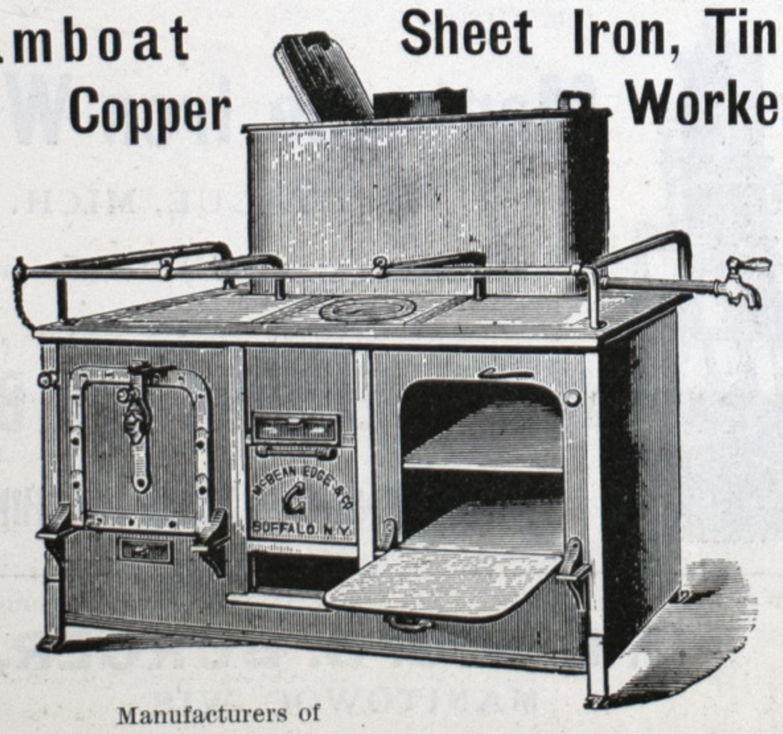

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Cleveland, O., Jan. 6, 1891.

MILLER CHEMICAL ENGINE CO., Room 4, Bratenahl Blk.

GENTLEMEN: I had occasion on the 13th of November to use your Extinguisher on board the steamer Queen of the West, of Cleveland. A large lamp used for signal purposes aft, fell about twenty feet and set fire to the whole roof of the engine room. I do not know what the consequences would have been but for the prompt and effectual way in which your extinguisher put out the fire, as the wind was blowing hard and a heavy sea running at the time. I heartily recommend your machine as a fire extinguisher on all classes of steamships. Yours truly,

JOS. A. NICOLSEN, Master Str. Queen of the West.

182 24th Street,

MILLER CHEMICAL ENGINE CO. Detroit, Mich., Jan 12, 1891.

DEAR SIRS: Going up Lake Huron last fall during a heavy gale of wind and a big sea running, a fire broke out in one of the rooms of the steamer Fayette Brown, through the accidental upsetting of a lamp among some papers, and had gained considerable headway before discovered. By the prompt use of one of your Chemical Engines it was quickly subdued, and I think there was less than a pint of the fluid used. Have no doubt the fire would have given us lots of trouble without some such prompt and easy way of extinguishing it. Since that time I do not think a steamboat properly fitted out without the Miller Chemical Engine.

Yours truly, C. H. BASSETT, Master Str. Fayett Brown.

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AND

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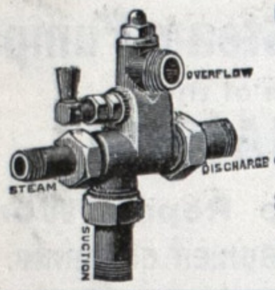
for 1891, the writer has repeatedly promised that the work would be advertised, advertised extensively, and advertised expensively, and no stones left unturned, looking towards securing an unprecedented circulation. The entire work is being electrotyped to provide for the running of an extra edition. To day, Feb. 18th, I have placed on exhibition in Detroit, the largest Marine View (in oil), ever painted for use as an advertisement, it is the work of H. F. Sprague, of Cleveland, and the picture presents a portrait of the Sailor Boy, whose picture appears on the cover of the American Edition of my Book, which will come from press March 5th. This painting referred to will be exhibited in all the leading cities on the lakes. Respectfully,

Price of Book $1.00, Order Now. **HARVEY C. BEESON.**



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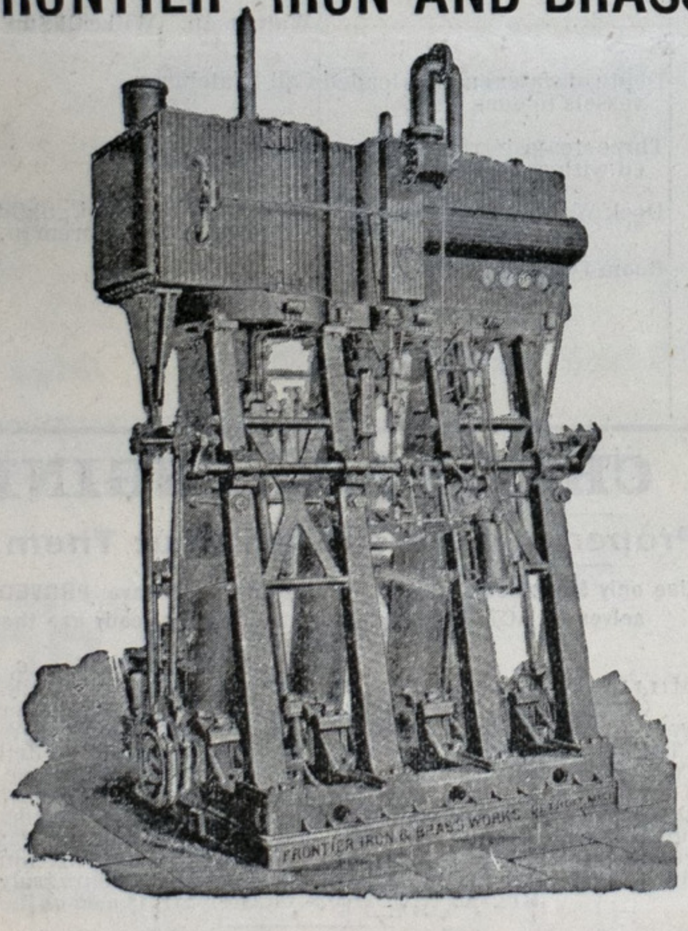

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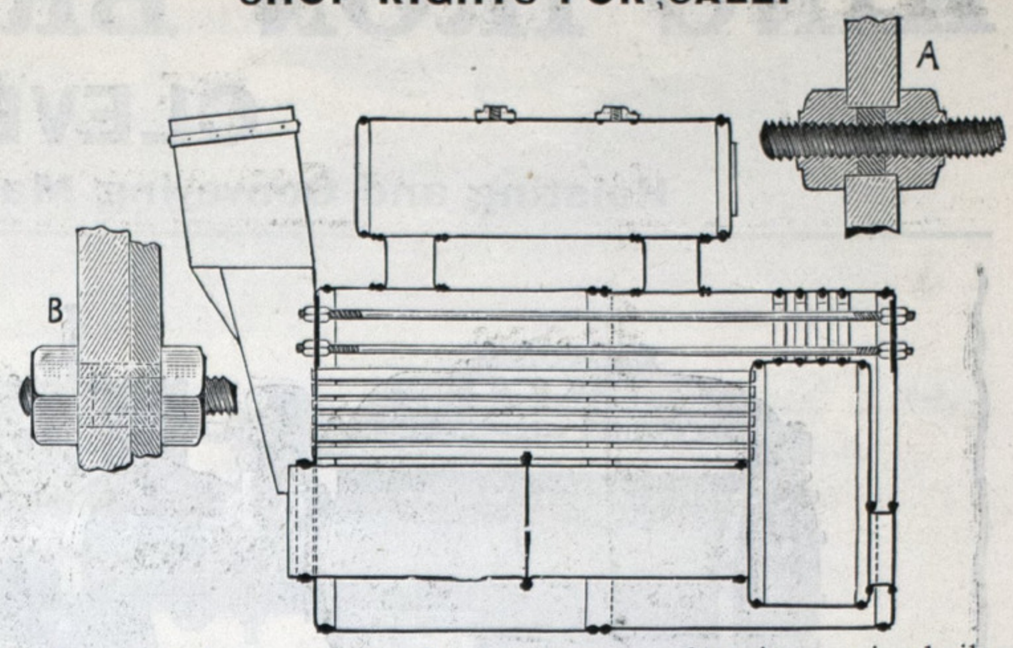

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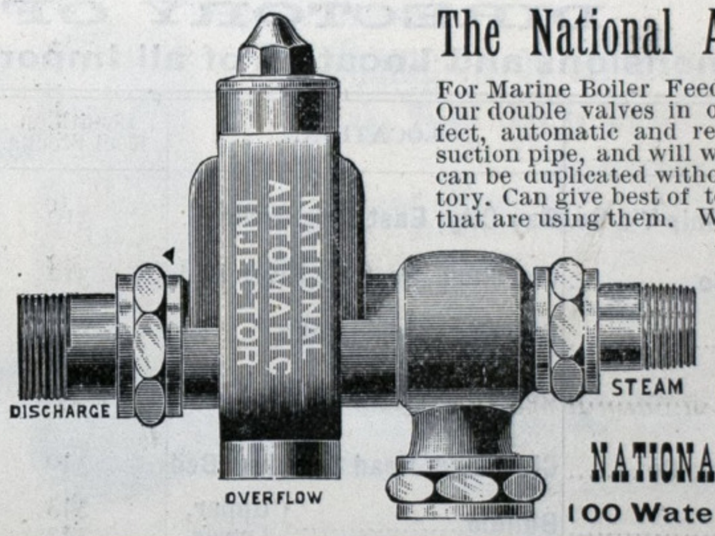

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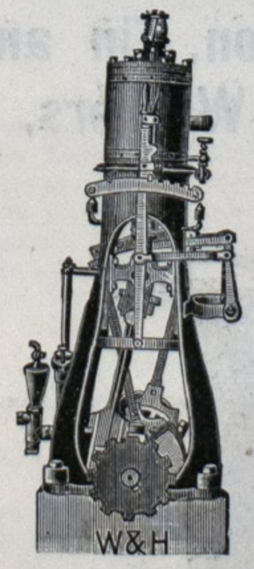

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